Robert C. Colwell, Reg. No. 27,431   (650) 326-2400

Applicant: Takeshi Arisaka, *et al.*
Title: Electronic Commerce Method
Atty Docket No. 16869S-085300
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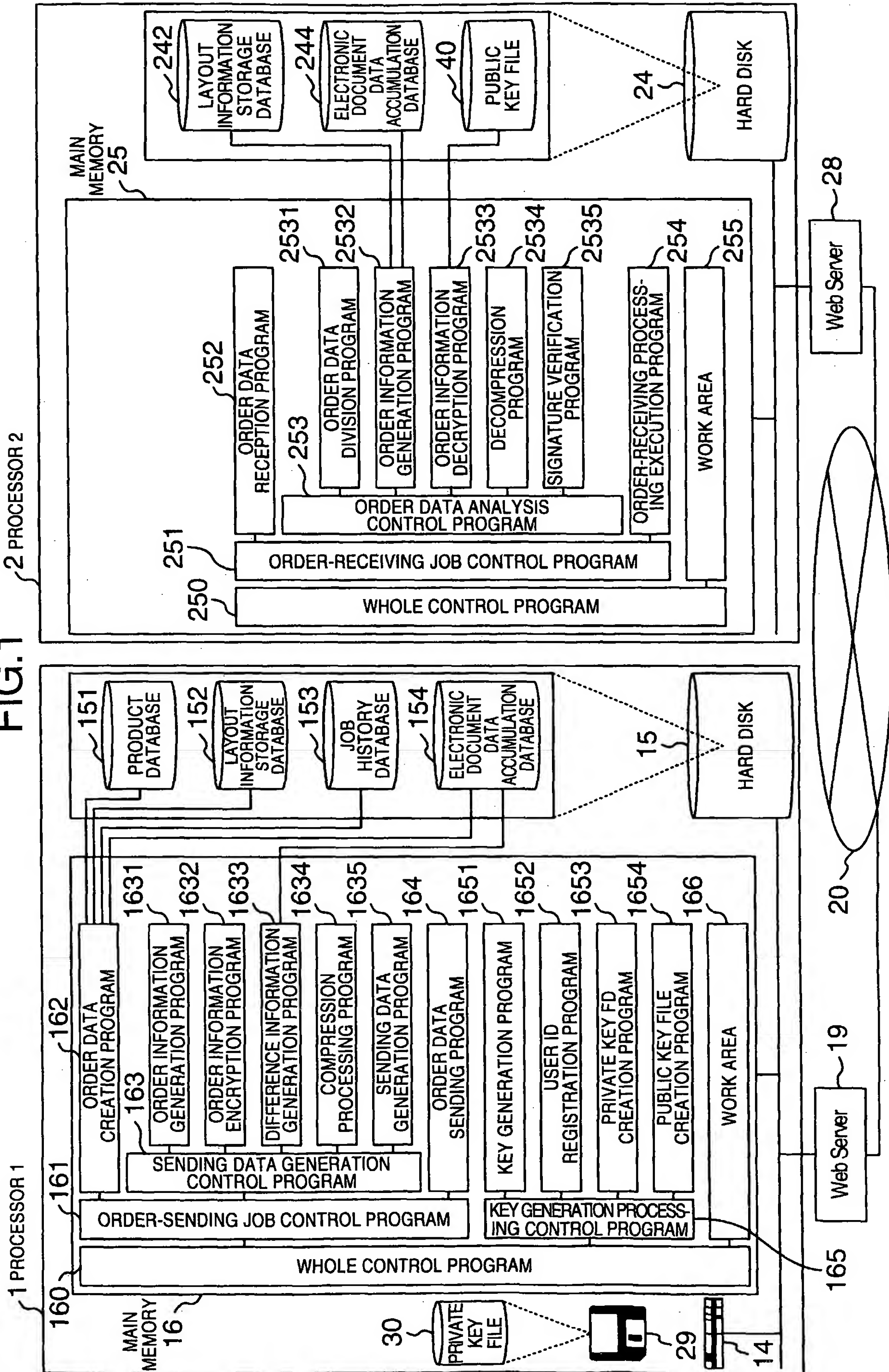
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FIG.1

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FIG.2

1 PROCESSOR 1

2 PROCESSOR 2

11 DISPLAY
12 KEYBOARD
29 FLOPPY DISK
17 16
CPU MAIN MEMORY
14 FLOPPY DISK DRIVE
15 HARD DISK
18
13 MOUSE
Web Server 19

21 DISPLAY
22 KEYBOARD
25 MAIN MEMORY
26 CPU
24 HARD DISK
27
23 MOUSE
Web Server 28

20

FIG.3

30 PRIVATE KEY FILE

31	32	33	34
ID NUMBER	PASSWORD	ISSUANCE NUMBER	PRIVATE KEY

40 PUBLIC KEY FILE

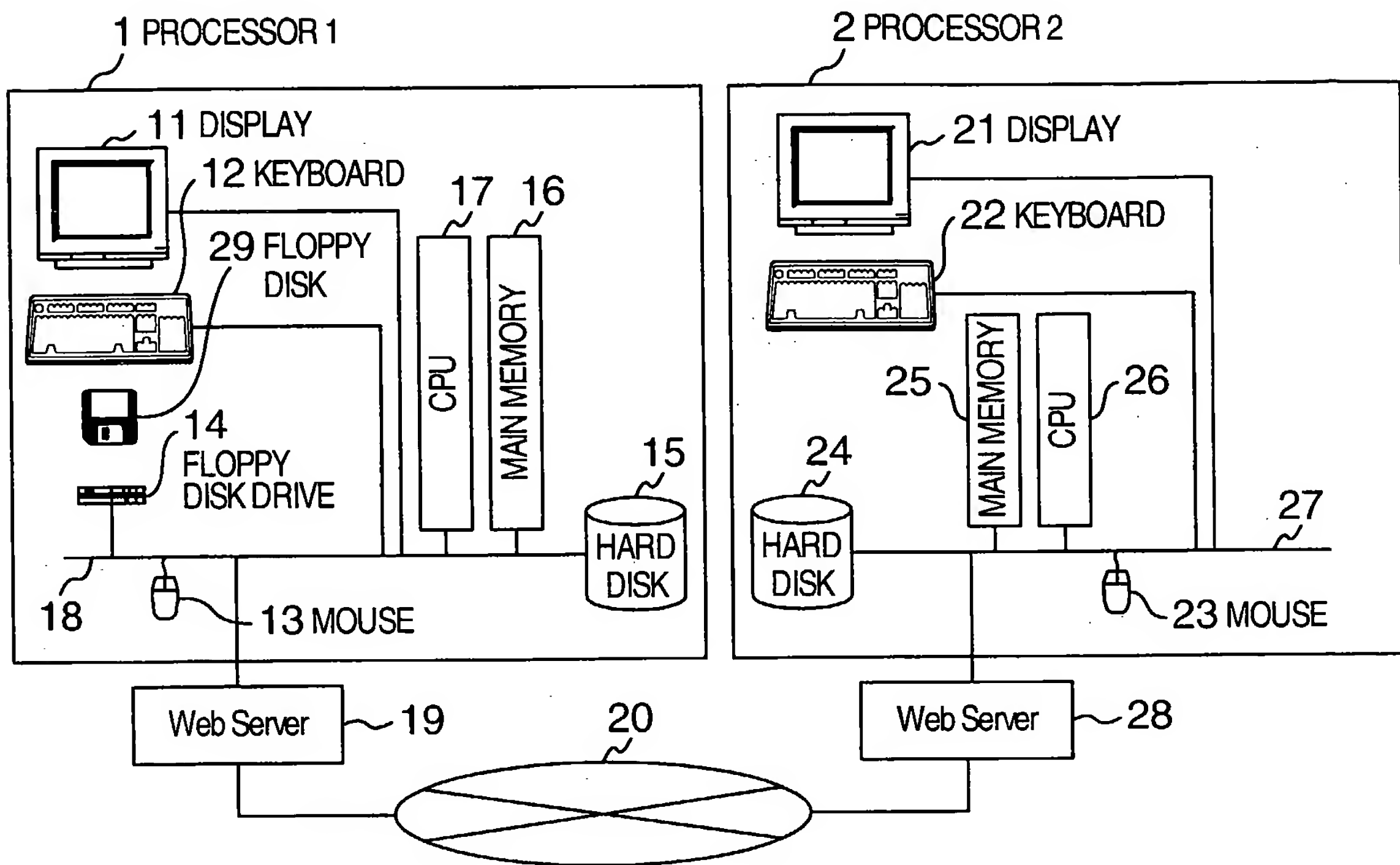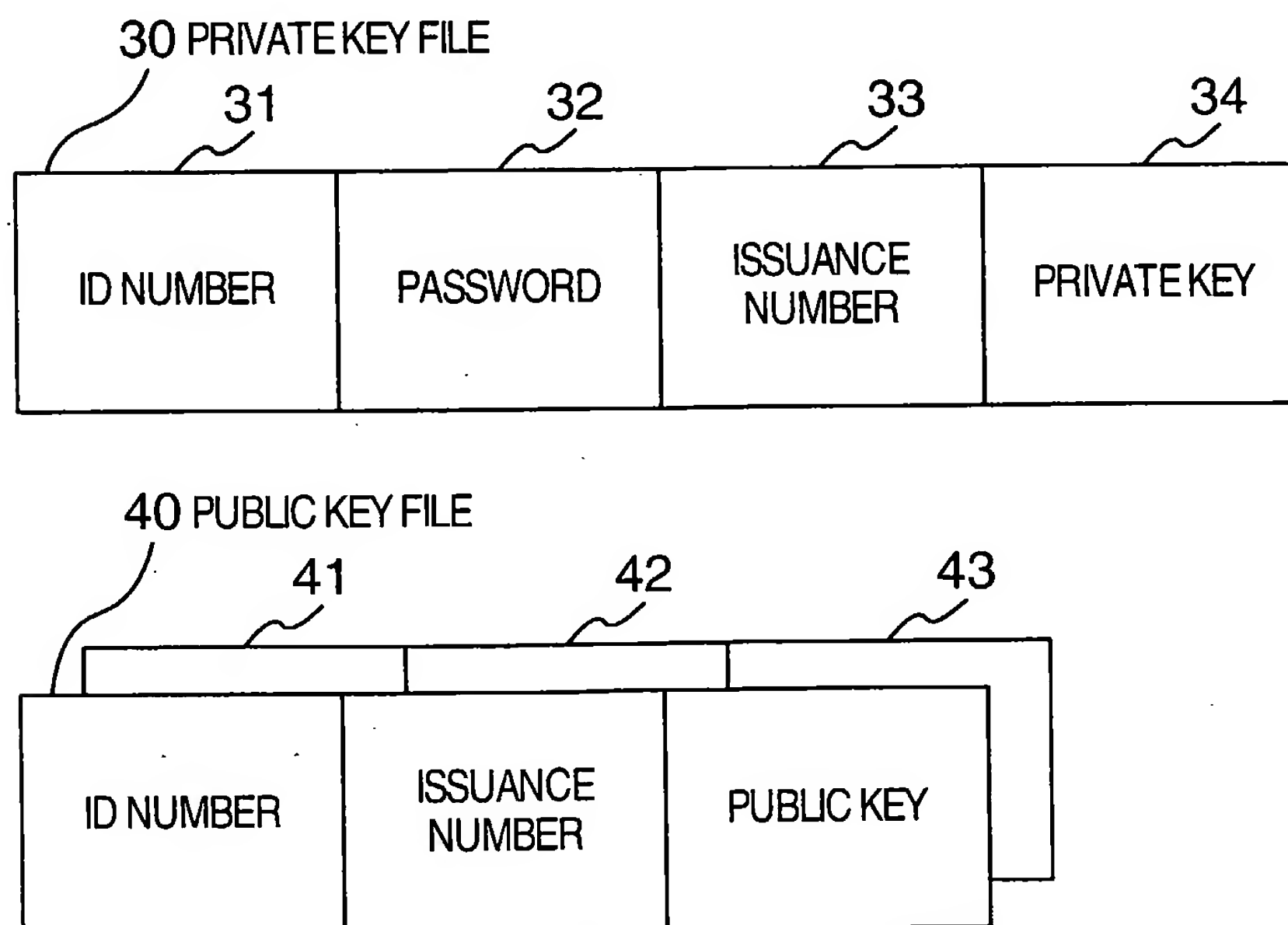| 41	42	43
ID NUMBER	ISSUANCE NUMBER	PUBLIC KEY

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FIG.4

START

401
START KEY GENERATION PROCESSING CONTROL PROGRAM AND SET K = 0 AS INITIAL VALUE

402
K = K + 1

403 — K ≦ N — NO

YES

404
EXECUTE KEY GENERATION PROGRAM TO CREATE A PAIR OF PUBLIC KEY AND PRIVATE KEY BASED ON PUBLIC KEY ENCRYPTION

405
EXECUTE USER ID PROGRAM TO RECEIVE ID NUMBER AND PASSWORD OF USER K FROM KEYBOARD

406
EXECUTE PRIVATE KEY FD CREATION PROGRAM TO WRITE PRIVATE KEY DATA ON FLOPPY DISK TO CREATE PRIVATE KEY FILE

407
EXECUTE PUBLIC KEY FILE CREATION PROGRAM TO WRITE DATA, SUCH AS PUBLIC KEY, ON HARD DISK TO CREATE PUBLIC KEY FILE

END

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FIG.5

START

DISPLAY FORM
(NEW/ALREADY-ISSUED)
SPECIFICATION SCREEN — 101

NEW? — 102

NO

YES

PURCHASE ORDER FORM
CORRECTION AND
RE-ISSUANCE JOB — 109

DISPLAY LAYOUT
SPECIFICATION SCREEN — 103

ELECTRONIC
DOCUMENT
IDENTIFICATION
NUMBER

READ LAYOUT INFORMATION
STORAGE DATABASE — 104

DISPLAY LAYOUT — 105

ENTER DATA — 106

ADD DATA
TO ELECTRONIC DOCUMENT
DATA ACCUMULATION DATABASE — 107

REGISTER DATA
WITH JOB HISTORY DATABASE — 108

END

FIG.6

PURCHASE ORDER FORM A   61

PURCHASE ORDER FORM		ORDER NO.	
		ORDER DATE	YYMMDD
PRODUCT NO.	PRODUCT NAME	QUANTITY	UNIT
			ITEMS
			ITEMS
			ITEMS
			ITEMS

LAYOUT INFORMATION
STORAGE DATABASE
152

LAYOUT ID	FILE NAME 64
1	PURCHASE ORDER FORM A
2	PURCHASE ORDER FORM B
3	PURCHASE ORDER FORM C
⋮	⋮

PURCHASE ORDER FORM B   62

PURCHASE ORDER FORM		ORDER NO.	
		ORDER DATE	YYMMDD
PRODUCT NO.	PRODUCT NAME	QUANTITY	UNIT
			DOZEN
			DOZEN
			DOZEN
			DOZEN

PURCHASE ORDER FORM C   63

PURCHASE ORDER FORM		ORDER NO.	
		ORDER DATE	YYMMDD
PRODUCT NO.	PRODUCT NAME	QUANTITY	UNIT
			GROSS
			GROSS
			GROSS
			GROSS

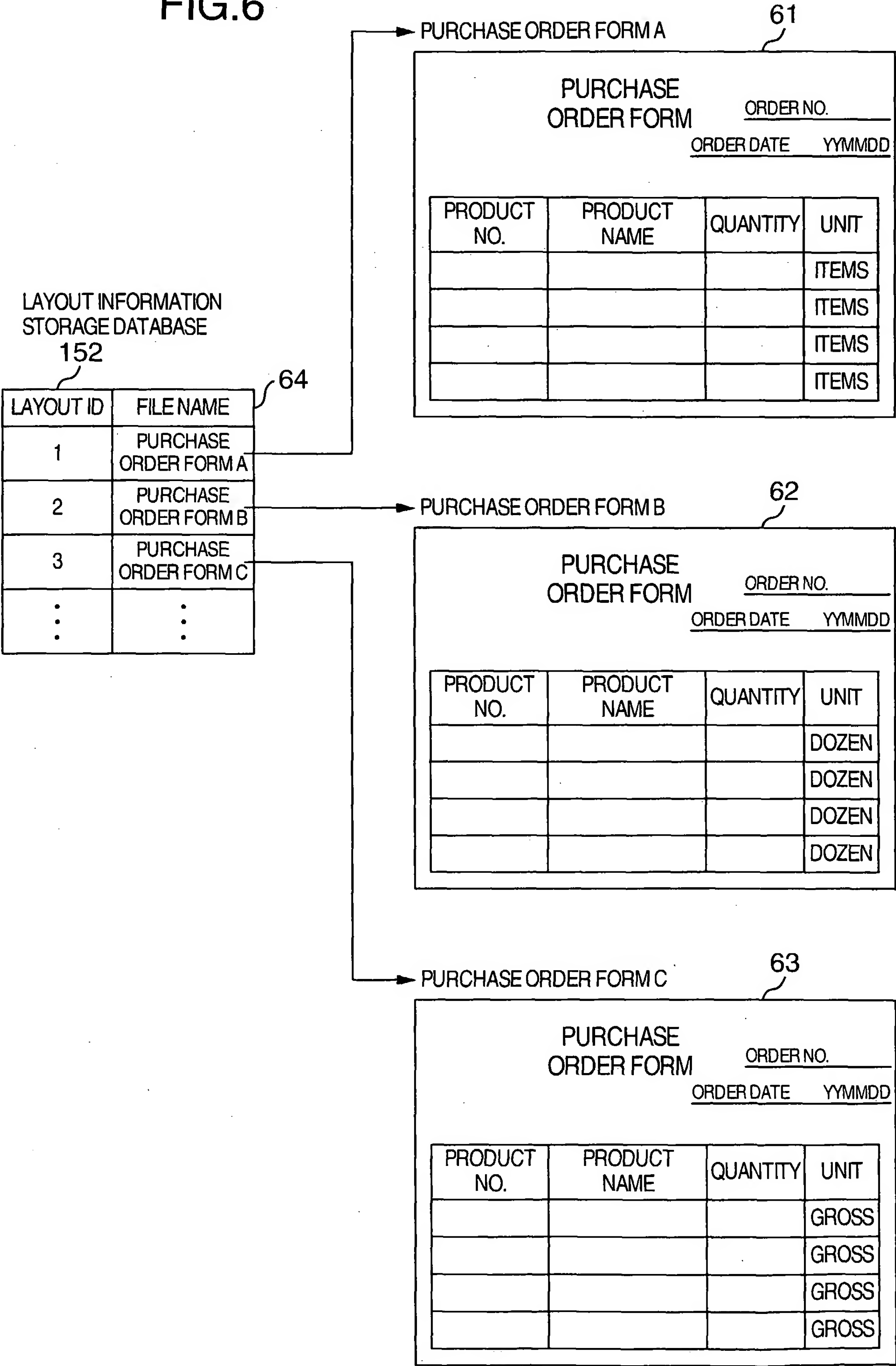*Robert C. Colwell, Reg. No. 27,431*   *(650) 326-2400*

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FIG.7

PURCHASE ORDER FORM A   71

PURCHASE ORDER FORM

ORDER NO.   107

ORDER DATE MAY 31, 2002

PRODUCT NO.	PRODUCT NAME	QUANTITY	UNIT
1215	MILK COOKIE	10	ITEMS
1326	GOURMET COOKIE	15	ITEMS
			ITEMS
			ITEMS
			ITEMS

PURCHASE ORDER FORM A   72

PURCHASE ORDER FORM

ORDER NO.   109

ORDER DATE MAY 31, 2002

PRODUCT NO.	PRODUCT NAME	QUANTITY	UNIT
1215	MILK COOKIE	10	ITEMS
1326	GOURMET COOKIE	15	ITEMS
1426	CRISP CRACKER	20	ITEMS
			ITEMS
			ITEMS

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FIG.8

JOB HISTORY DATABASE 153   82

ORDER ID	ACCUMULATION ID	STATE	
107	1	ORDER	
108	2	ORDER	
109	3	ORDER	

821 — 107
824 — 108
827 — 109

822 825 828 823 829

ELECTRONIC DOCUMENT DATA ACCUMULATION DATABASE 154   83

SERIAL NO.	REFERENCE DATA	DATA
1	PURCHASE ORDER FORM A	107, 20020531, 1215, MILK COOKIE, 10, 1326, GOURMET COOKIE, 15
2	PURCHASE ORDER FORM B	108, 20020531, 2115, EASY PENCIL, 10, 2226, FELT PEN, 10
3	1	109,,,,,,, 1426, CRISP CRACKER, 20

831 —   833
834 —   836
837 —   839
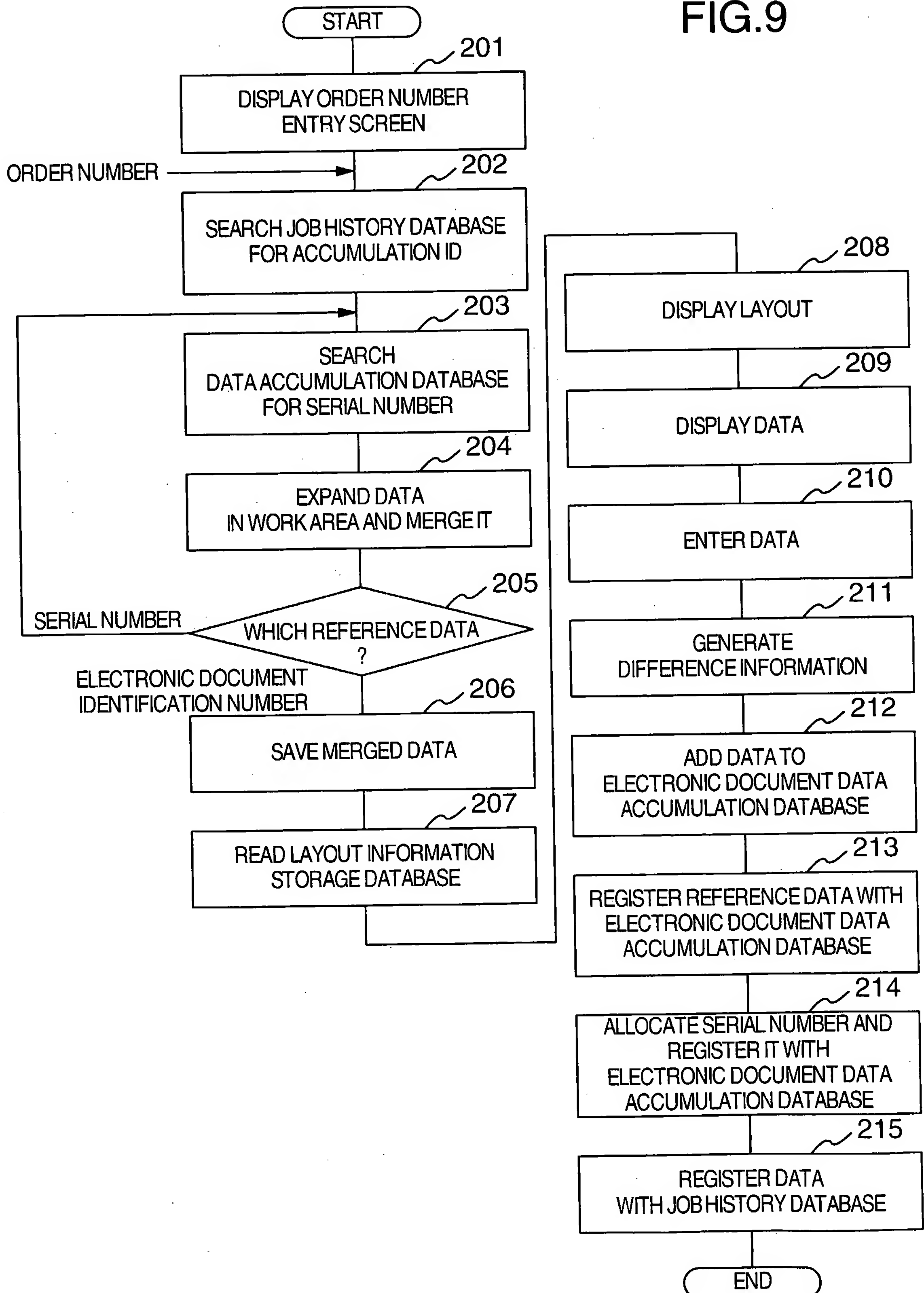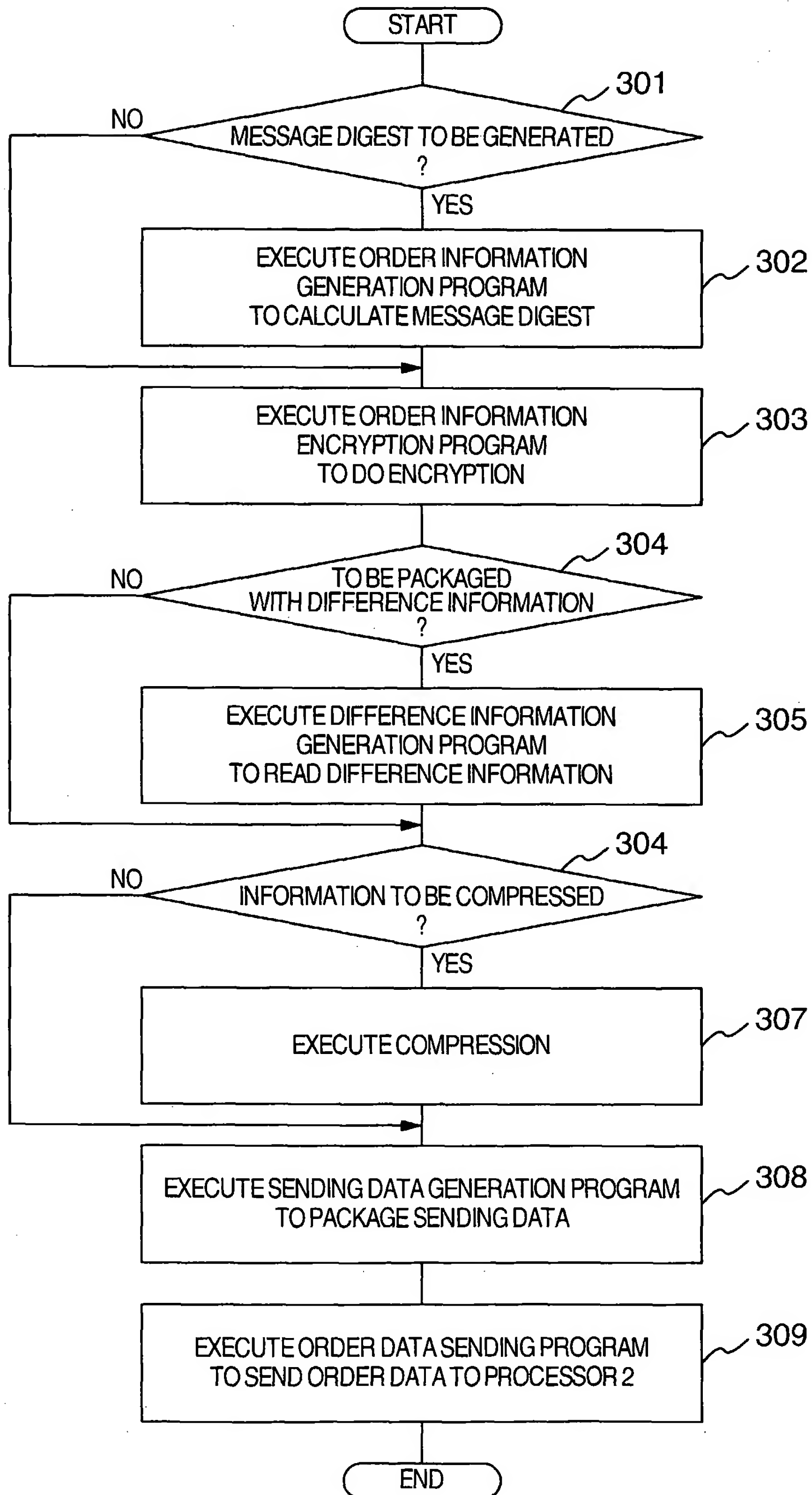
832 835 838

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FIG.9

START
~ 201

DISPLAY ORDER NUMBER
ENTRY SCREEN

ORDER NUMBER →
~ 202

SEARCH JOB HISTORY DATABASE
FOR ACCUMULATION ID

~ 203

SEARCH
DATA ACCUMULATION DATABASE
FOR SERIAL NUMBER

~ 204

EXPAND DATA
IN WORK AREA AND MERGE IT

~ 205

SERIAL NUMBER ─
WHICH REFERENCE DATA
?

ELECTRONIC DOCUMENT
IDENTIFICATION NUMBER
~ 206

SAVE MERGED DATA

~ 207

READ LAYOUT INFORMATION
STORAGE DATABASE

~ 208

DISPLAY LAYOUT

~ 209

DISPLAY DATA

~ 210

ENTER DATA

~ 211

GENERATE
DIFFERENCE INFORMATION

~ 212

ADD DATA TO
ELECTRONIC DOCUMENT DATA
ACCUMULATION DATABASE

~ 213

REGISTER REFERENCE DATA WITH
ELECTRONIC DOCUMENT DATA
ACCUMULATION DATABASE

~ 214

ALLOCATE SERIAL NUMBER AND
REGISTER IT WITH
ELECTRONIC DOCUMENT DATA
ACCUMULATION DATABASE

~ 215

REGISTER DATA
WITH JOB HISTORY DATABASE

END

FIG.10

START

301
MESSAGE DIGEST TO BE GENERATED ?
NO
YES

302
EXECUTE ORDER INFORMATION GENERATION PROGRAM TO CALCULATE MESSAGE DIGEST

303
EXECUTE ORDER INFORMATION ENCRYPTION PROGRAM TO DO ENCRYPTION

304
TO BE PACKAGED WITH DIFFERENCE INFORMATION ?
NO
YES

305
EXECUTE DIFFERENCE INFORMATION GENERATION PROGRAM TO READ DIFFERENCE INFORMATION

304
INFORMATION TO BE COMPRESSED ?
NO
YES

307
EXECUTE COMPRESSION

308
EXECUTE SENDING DATA GENERATION PROGRAM TO PACKAGE SENDING DATA

309
EXECUTE ORDER DATA SENDING PROGRAM TO SEND ORDER DATA TO PROCESSOR 2

END

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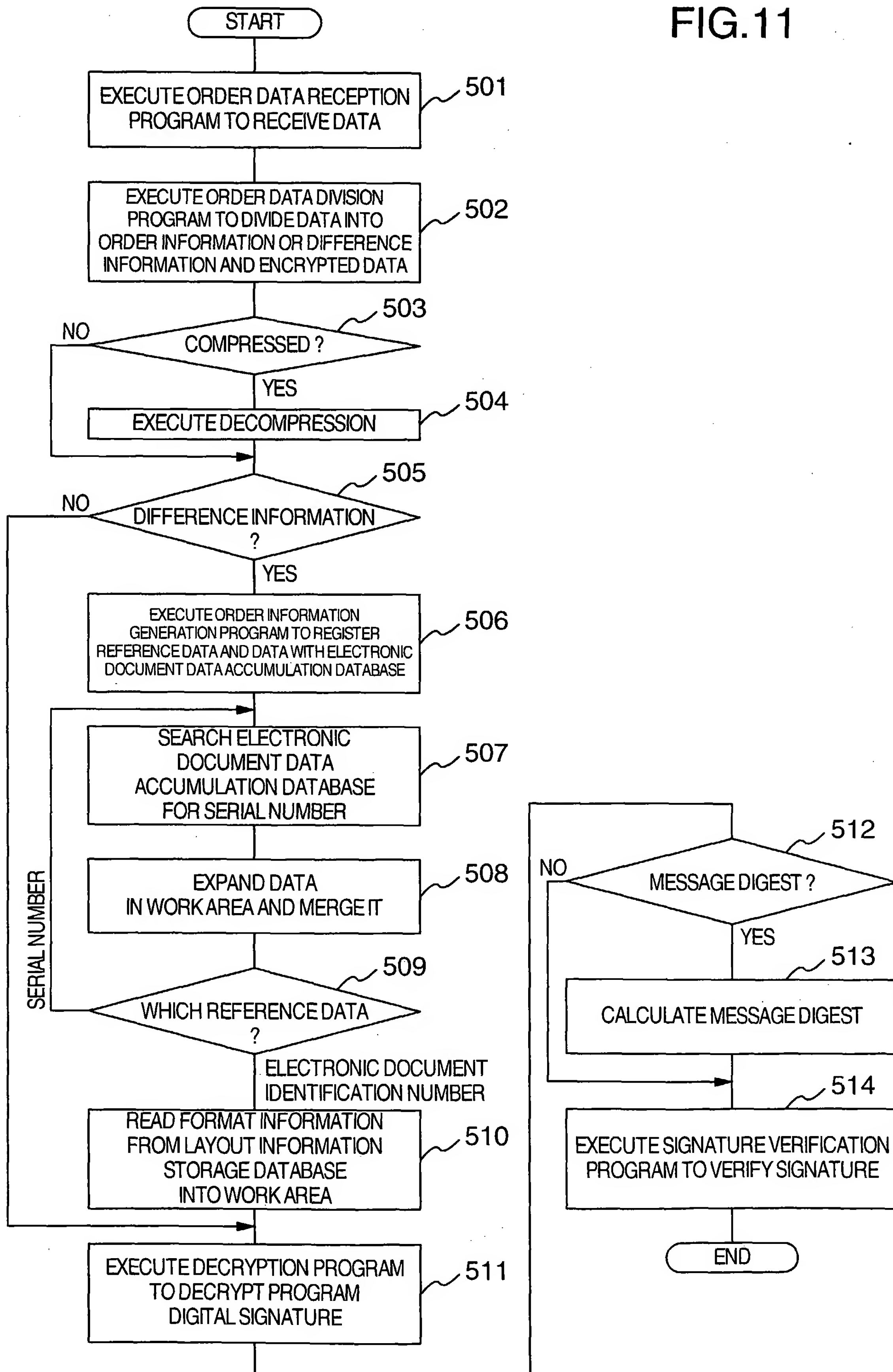Applicant: Takeshi Arisaka, et al.
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FIG.11

START

EXECUTE ORDER DATA RECEPTION PROGRAM TO RECEIVE DATA — 501

EXECUTE ORDER DATA DIVISION PROGRAM TO DIVIDE DATA INTO ORDER INFORMATION OR DIFFERENCE INFORMATION AND ENCRYPTED DATA — 502

COMPRESSED ? — 503
NO
YES

EXECUTE DECOMPRESSION — 504

DIFFERENCE INFORMATION ? — 505
NO
YES

EXECUTE ORDER INFORMATION GENERATION PROGRAM TO REGISTER REFERENCE DATA AND DATA WITH ELECTRONIC DOCUMENT DATA ACCUMULATION DATABASE — 506

SEARCH ELECTRONIC DOCUMENT DATA ACCUMULATION DATABASE FOR SERIAL NUMBER — 507

SERIAL NUMBER

EXPAND DATA IN WORK AREA AND MERGE IT — 508

WHICH REFERENCE DATA ? — 509

ELECTRONIC DOCUMENT IDENTIFICATION NUMBER

READ FORMAT INFORMATION FROM LAYOUT INFORMATION STORAGE DATABASE INTO WORK AREA — 510

EXECUTE DECRYPTION PROGRAM TO DECRYPT PROGRAM DIGITAL SIGNATURE — 511

MESSAGE DIGEST ? — 512
NO
YES

CALCULATE MESSAGE DIGEST — 513

EXECUTE SIGNATURE VERIFICATION PROGRAM TO VERIFY SIGNATURE — 514

END

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FIG.12

244 ELECTRONIC DOCUMENT DATA ACCUMULATION DATABASE

SERIAL NO.	REFERENCE DATA	DATA
1	PURCHASE ORDER FORM A	107, 20020531, 1215, MILK COOKIE, 10, 1326, GOURMET COOKIE, 15
2	PURCHASE ORDER FORM B	108, 20020531, 2115, EASY PENCIL, 10, 2226, FELT PEN, 10

121   123
124   126
122 125

244 ELECTRONIC DOCUMENT DATA ACCUMULATION DATABASE

SERIAL NO.	REFERENCE DATA	DATA
1	PURCHASE ORDER FORM A	107, 20020531, 1215, MILK COOKIE, 10, 1326, GOURMET COOKIE, 15
2	PURCHASE ORDER FORM B	108, 20020531, 2115, EASY PENCIL, 10, 2226, FELT PEN, 10
3	1	109,,,,,,,, 1426, CRISP CRACKER, 20

127   129
128

FIG.13